The National Institutes of Health

Begun as a one-room Laboratory of Hygiene in 1887, the National Institutes of Health today is one of the world's foremost biomedical research centers. The NIH is the Federal focal point for health research.

WHAT IS THE NIH MISSION AND ORGANIZATION?

The NIH mission is to uncover new knowledge that will lead to better health for everyone. NIH works toward that mission by: conducting research in its own laboratories; supporting the research of non-Federal scientists in universities, medical schools, hospitals, and research institutions throughout the country and abroad; helping in the training of research investigators; and fostering and supporting biomedical communications.

The NIH is one of eight health agencies of the Public Health Service which, in turn, is part of the Department of Health and Human Services. Comprised of 24 separate Institutes, Centers, and Divisions (see list), the NIH has 70 buildings on more than 300 acres in Bethesda, MD. From a budget of about $300 in 1887, its budget for 1993 is more than $10 billion.

WHAT IS THE GOAL OF NIH RESEARCH?

Simply described, the goal of NIH research is to acquire new knowledge to help prevent, detect, diagnose, and treat disease and disability, from the rarest genetic disorder to the common cold.

HOW DOES THE NIH HELP SCIENTISTS REACH THIS GOAL?

The NIH Supports Research...

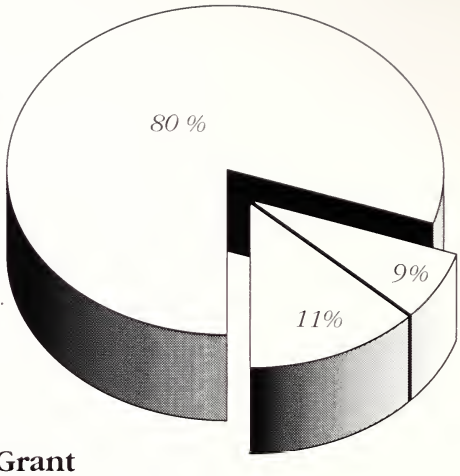
A principal concern of the NIH is to invest wisely the tax dollars entrusted to it for the support and conduct of biomedical research.

More than 80 percent of the investment is made through grants and contracts supporting research and training in more than 1,700 research institutions throughout the U.S. and abroad. In fact, NIH grantees are located in every State in the country. These grants and contracts comprise the NIH **extramural research program**.

Approximately 11 percent of the remainder of the NIH budget goes to the **intramural research program** and its more than 2,000 projects conducted mainly in the NIH's own laboratories.

The NIH Investment in Biomedical Research

80% of the NIH budget is for extramural research; 11% for intramural research; 9%, support costs.



...From an Idea to a Grant

Final decisions about funding extramural research are made at the NIH headquarters. But long before this happens, the process begins with an idea that an individual scientist describes in a written application for a research grant.

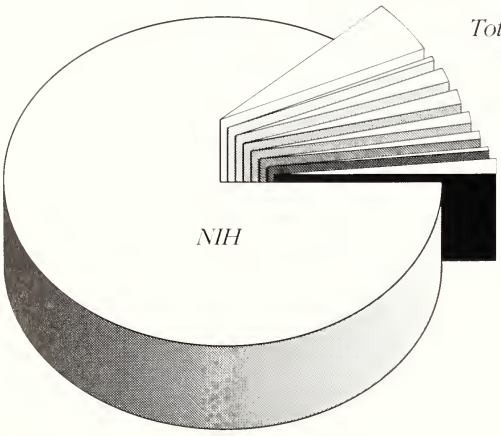
The project might be small, or it might involve millions of dollars. The project might become useful immediately as a diagnostic test or new treatment, or it might involve studies of basic biological processes whose practical value may not be apparent for many years.

Peer Review

Each research grant application undergoes a peer review process, first by a panel of technical experts from outside the government who determine its scientific merit, then by a national advisory council or board composed of members of the public and eminent scientists. They determine the project's merit and priority to the particular funding institute.

All together, about 30,000 research and training applications are reviewed annually through the NIH peer review system.

1991 Federal Agency Obligations for Health Research & Development



(Millions of Dollars)

Total Federal Outlay	*$ 10,710.8*
NIH	*7,711.4*
Other PHS	*1,429.1*
Other HHS	*70.6*
Energy	*365.6*
Defense	*346.9*
VA	*255.5*
NASA	*160.4*
NSF	*79.8*
Other	*291.5*

The NIH Conducts Research...

The intramural research program, although it represents only a small part of the total NIH budget, is central to the NIH scientific effort.

First-rate scientists are key to the intramural research program. They collaborate with one another regardless of institute affiliation or scientific discipline, and enjoy intellectual freedom to pursue their research leads in NIH's own laboratories. These explorations range from basic biology, to behavioral research, to the treatment of major diseases.

...From an Idea to a Laboratory

NIH scientists conduct their research in laboratories located on the NIH campus in Bethesda, and in many field units across the country and abroad. Following are the NIH on-campus facilities:

RESEARCH HOSPITAL

A unique research hospital and laboratory complex, the **Warren Grant Magnuson Clinical Center** is a 14-story, 500-bed facility designed to allow NIH's intramural scientists to bring research closer to patients' bedsides.

Each year about 9,000 individuals come from all over the world, upon referral by their physicians, to participate as inpatients in clinical studies at the NIH. These patients not only receive the finest care, they also contribute to a better understanding of disease.

In addition, the Clinical Center accepts about 500 normal or healthy volunteers annually, who also help provide scientists with information useful in conducting their studies.

THE CHILDREN'S INN at NIH, constructed through private donations, serves as a "home away from home" for chronically ill children and their families while the children are being treated at the NIH.

OUTPATIENT CLINIC

The Clinical Center's **Ambulatory Care Research Facility** (ACRF) provides additional space for laboratories and for the Center's rapidly growing outpatient program. Recent medical advances allow many people with serious chronic diseases to lead nearly normal lives while their illnesses are being studied on an outpatient basis. Each year there are about 145,000 outpatient visits to the ACRF.

Other On-Campus Sites:

- The 10-story **Lister Hill Center** houses the Lister Hill National Center for Biomedical Communications, and the National Center for Biotechnology Information.

- The **Fogarty International Center** promotes international cooperation and scholarship in science, and serves as the focus for international biomedical research activities at NIH.

- The **Mary Woodard Lasker Center for Health Research and Education** houses the NIH-Howard Hughes Medical Institute research program for medical students.

THE NATIONAL LIBRARY OF MEDICINE is the world's largest medical library. Its collection of 3.5 million medical books, journals, pamphlets, rare manuscripts, films, and other items has been called the "Fort Knox of health information" because of the richness of its resources.

The Library produces and publishes *Index Medicus*, a comprehensive monthly listing of articles appearing in the world's leading medical journals. The Library also operates a computerized *Index Medicus*, known as MEDLINE, and has pioneered the introduction of large medical bibliographic data bases.

Off-Campus Sites:

The NIH's National Institute of Environmental Health Sciences studies the adverse effects of environmental factors on human health, and is located in Research Triangle Park, NC. Other laboratory facilities include the NIH Animal Center in Poolesville, MD; the National Institute on Aging's Gerontology Research Center in Baltimore, MD; and the National Institute of Allergy and Infectious Diseases' Rocky Mountain Laboratories in Hamilton, MT.

Several smaller field stations are located in the U.S. and abroad.

WHO ARE THE SCIENTISTS NIH SUPPORTS?

Scientific progress depends mainly on the scientist. About 20,000 prinicpal investigators--representing every State in the Union and several foreign countries, every specialty in medicine, and every major university and medical school--receive NIH extramural funding to explore unknown areas of biomedical science.

Supporting and conducting both NIH's extramural and intramural programs are about 19,000 employees, more than 4,500 of whom hold professional or research doctorate degrees. The NIH staff includes intramural scientists, physicians, dentists, veterinarians, nurses, and laboratory, administrative, and support personnel, plus an ever-changing array of research scientists in training.

THE NOBELISTS

The rosters of those who have received NIH support over the years include the most illustrious physicians and scientists this Nation has produced. Among them are over 79 scientists who have won Nobel Prizes for achievements as diverse as deciphering the genetic code and learning what causes hepatitis.

Four Nobelists made their prize-winning discoveries in NIH laboratories: Drs. Christian B. Anfinsen, Julius Axelrod, D. Carleton Gajdusek, and Marshall W. Nirenberg.

WHO ARE THE NIH'S OTHER PARTNERS IN RESEARCH?

NIH is a key element in a partnership that has thrived for decades and includes universities and academic health centers, independent research institutions, and private industry whose research programs and product development activities help make Federally-funded research findings more widely available.

The partnership, which has produced many of the medical advances that benefit Americans today, also includes voluntary and professional health organizations, and the Congress which consistently has supported this vast enterprise.

WHAT IMPACT HAS THE NIH HAD ON THE HEALTH OF THE NATION?

As a result of the NIH investment in research:

▶ Mortality from **heart disease**, the number one killer in the United States, has decreased by 39 percent between 1972 and 1990.

▶ Death rates from **stroke** are down more than 58 percent during the same period.

▶ Improved treatments have increased the 5-year survival rate for people with **cancer** to 52 percent, affording more individuals the chance of living a normal life expectancy.

▶ In **schizophrenia**, where suicide is always a potential danger, new medications have reduced troublesome symptoms such as delusions and hallucinations in 80 percent of patients.

▶ Chances for survival have increased for infants with **respiratory distress syndrome** — an immaturity of the lungs that affects 40,000 premature babies each year — because a new diagnostic test and a special air pressure treatment prevent their lungs from collapsing. In general, life expectancy for a baby born today is almost three decades longer than one born at the beginning of the century.

▶ Those suffering from **depression** now look forward to returning to work and leisure activities, thanks to appropriate treatment which has given them an 80 percent chance to resume a full life in a matter of weeks.

▶ Vaccines protect against **infectious diseases** that once killed and maimed millions of children and adults.

▶ **Recombinant DNA technology** has led to the production of therapeutic agents such as insulin and growth hormone, and other vital substances that can be used to treat many serious diseases.

▶ Advances in **gene identification** may lead to promising new ways to understand disease.

NIH RESEARCH IN THE 21st CENTURY

The NIH has enabled scientists to learn much since its humble beginnings as a one-room laboratory in 1887. But many discoveries remain to be made:

- Better ways to prevent and treat cancer, heart disease, stroke, blindness, arthritis, diabetes, kidney diseases, Alzheimer's disease, mental disorders, substance abuse, AIDS and other unconquered diseases;

- Ways to continue improving the health of infants and children; women; minorities;

- More information about the aging process and about behavior and lifestyle practices that affect health.

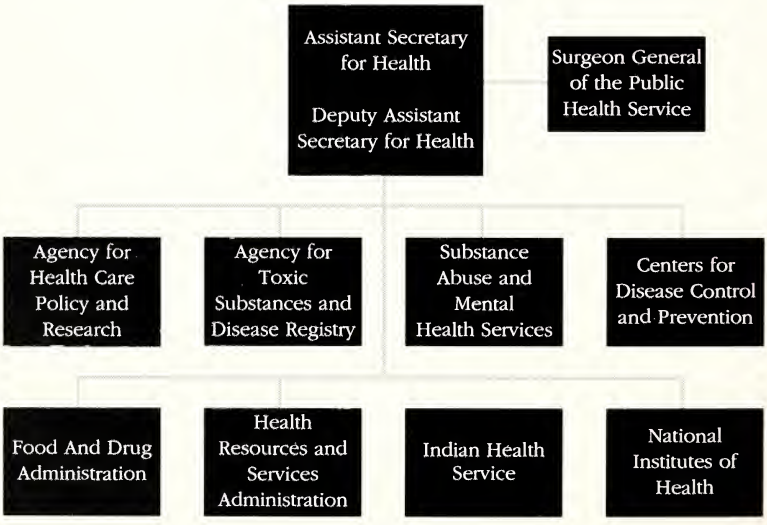
These are some of the areas where the NIH's investment in health research promises to yield the greatest good for the greatest number of people.

Prepared by the Office of Communications *January 1993*

NIH'S INSTITUTES, CENTERS, AND DIVISIONS

National Cancer Institute	301-496-5583
National Eye Institute	301-496-5248
National Heart, Lung, and Blood Institute	301-496-4236
National Institute on Aging	301-496-1752
National Institute on Alcohol Abuse and Alcoholism	301-443-3860
National Institute of Allergy and Infectious Diseases	301-496-5717
National Institute of Arthritis and Musculoskeletal and Skin Diseases	301-496-8188
National Institute of Child Health and Human Development	301-496-5133
National Institute of Dental Research	301-496-4261
National Institute of Diabetes and Digestive and Kidney Diseases	301-496-3583
National Institute on Drug Abuse	301-443-1124
National Institute of Environmental Health Sciences	919-541-3345
National Institute of General Medical Sciences	301-496-7301
National Institute of Mental Health	301-443-4513
National Institute of Neurological Disorders and Stroke	301-496-5751
National Institute on Deafness and Other Communication Disorders	301-496-7243
National Library of Medicine	301-496-6308
National Center for Human Genome Research	301-402-0911
National Center for Nursing Research	301-496-0207
National Center for Research Resources	301-496-5545
John E. Fogarty International Center	301-496-2075
Warren Grant Magnuson Clinical Center	301-496-2563
Division of Research Grants	301-496-7441
Division of Computer Research and Technology	301-496-6203

Department of Health and Human Services
Public Health Service


Assistant Secretary for Health
Deputy Assistant Secretary for Health
Surgeon General of the Public Health Service
Agency for Health Care Policy and Research
Agency for Toxic Substances and Disease Registry
Substance Abuse and Mental Health Services
Centers for Disease Control and Prevention
Food And Drug Administration
Health Resources and Services Administration
Indian Health Service
National Institutes of Health